



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/802,777	03/18/2004	Kosuke Kuwabara	1021.43673X00	4679
20457 7590 01/08/2007 ANTONELLI, TERRY, STOUT & KRAUS, LLP 1300 NORTH SEVENTEENTH STREET SUITE 1800 ARLINGTON, VA 22209-3873			EXAMINER BODAWALA, DIMPLE N	
			ART UNIT	PAPER NUMBER

1722

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/08/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/802,777	Applicant(s) KUWABARA ET AL.	
	Examiner Dimple N. Bodawala	Art Unit 1722	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 - 7, and 9 - 12 is/are rejected.
- 7) ☒ Claim(s) 8 and 13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Should applicant desire to obtain the benefit of foreign priority under 35 U.S.C. 119(a)-(d) prior to declaration of an interference, a certified English translation of the foreign application must be submitted in reply to this action. 37 CFR 41.154(b) and 41.202(e).

Failure to provide a certified translation may result in no benefit being accorded for the non-English application.

Information Disclosure Statement

The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description:

- ✓ *Reference No. 117 is missing in the description of Figure 4.*
- ✓ *Reference No. 204 is missing in the description of Figure 6.*

Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement-drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Figures 3 and 4 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected

Art Unit: 1722

drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because of the following informalities:

Reference No. 905 is confused because on Page 10, Example 3 discloses Reference No. 905 for "a molecular filter" as well as "Biochip", while Reference No. 900 indicates the "Biochip".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is indefinite and vague because it is unclear how the buffer has different longitudinal moduli of elasticity. Moduli of elasticity of the buffer are depending on the material, which can be varying by physical properties.

Claims 6, 7, 11, and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claims 6, 7, 11, and 12, the phrase “adjusted” renders the claims indefinite because in the specification the buffer that is selected from metal group with higher density of convex portion of the pattern, thereby rendering the scope of the claims unascertainable. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 – 3, 5 - 7, 9, 11 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Okazaki et al. (U S Patent No. 4,723,903).

As to claims 1 – 3, 5 - 7, 9, 11 and 12, Okazaki et al. (U S Patent No. 4,723,903) discloses the stamper for replicating high-density data recording disk which comprises the stamper layer on a surface which includes the fine concave convex pattern and another layer is disposed on the opposite side of the pattern. Figure 2 c discloses the stamper with pattern layer and the buffer, which is made of different material such as Nickel or Au and combination of Ni and Au which are known to have different longitudinal moduli of elasticity such as the stability, thickness of material, high recording density (see col.3 line 33), and also reproductivity of the recording. It teaches that the buffer layer is disposed on the surface of the stamper by the method of irradiation of light (See col.1, lines 35 – 65; col.3 lines 5 – 8; and figure 2c).

Furthermore, it discloses a fine pattern, which is formed on the surface thereof for forming a fine structure on a substrate using a pressing machine. (See example 2). Here the stamper is flexible. The buffer is arranged to opposite side of the pattern, and the buffer having a longitudinal distribution of moduli of elasticity

(See abstract, col.1 lines 40 – 50). The moduli of elasticity of the buffer are depending on the convex portion of the pattern. Since one or more pits are having different depths, which are formed very precisely, the density is increases and quality of a readout data signal is improved (See abstract).

Furthermore, figures 2c and 2(d) discloses the buffer or the stamper with different thickness, which is formed on a backside of the stamper opposite to the side of the pattern. It further discloses the thickness of the buffer is a portion of the buffer that corresponds to a portion of the pattern, which means the portion of the pattern is thin (See figures 2c – 2d, Example 1).

With regard to the claim recitations regarding the method of forming the apparatus, such relate only to the method of producing the claimed apparatus, which does not impart patentability to the apparatus claims. Not that the determination of patentability is based on the product apparatus itself, and the patentability of a product does not depend on its method of production. Also the different methods of manufacture produce articles having inherently different characteristics. *In re Brown*, 173 USPQ 685,688; *In re Pilkington*, 162 USPQ 145, 147; *In re Thrope*, 227 USPQ 964 (CAFC 1985); *In re Marosi*, 218 USPQ 289,292-293 (CAFC 1983); *Ex parte Skinner*, 2 USPQ2d 1788; *See MPEP 2113*. Here, claims 4 and 10 are rejected because claim discloses the product by

process claims which means the stamper as the product apparatus does not depend on its method such as ink-jet printing, a stencil printing, a screen printing and/or irradiation of light.

Okazaki ('903) discloses all the claimed structural limitations, and, thus, the claims are anticipated.

Allowable Subject Matter

Claim 8 and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record fails to teach or suggest the transfer apparatus. The closest prior art of Wago et al. (U S Patent No. 6,869,557 B1), Okazaki et al. (U S Patent No. 4,723,903), Aoki et al. (U S Patent No. 4,953,385), Chou (U S Publication No. 2006/0127522), and Walk (U S Publication No. 2004/0247732) are described above. These references do not teach or suggest the transfer apparatus that utilize the stamper which describe in the base claims 1 and 9.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Wago et al. (U S Patent No. 6,869,557 B1), Okazaki et al. (U S Patent No. 4,723,903), Aoki et al. (U S Patent No. 4,953,385), Chou (U S Publication No. 2006/0127522), and Walk (U S Publication No. 2004/0247732).

Here, Wago ('557) discloses the pattern, which is, transferred from the stamper to the substrate by thermal imprint lithography process with accurately and safely imprinting or embossing a pattern (See col.3 lines 56 – 67). Aoki ('385) discloses the transferring process that means the configuration of the die surface of the stamper was accurately transferred to the surface of the substrate or other article (See col.5 Lines 45 – 48).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dimple N. Bodawala whose telephone number is (571) 272-6455. The examiner can normally be reached on Monday - Friday at 8:30 am - 5:00 pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Yogendra N. Gupta can be reached on (571) 272-1316.

Art Unit: 1722

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DNB


EUGENIA K. GUR
SUPERVISOR, PATENT EXAMINER
TECHNOLOGY CENTER 1700